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material, detection of a chemical, measurement of a chemical, detection of S100 $\beta$ , measurement of S100 $\beta$ , use of biological assay techniques, detection of change in blood pressure, detection of change in pressure within the eye, detection of change in blood flow in arteries serving organs other than the brain, or detection of change in blood flow in the arteries serving the eye.

The only change is the replacement of "and" in the next to last line with "or" as noted by the Examiner in a rejection under 35 USC §103. A marked up copy of the amendment is appended below.

#### REMARKS

Claims 1-18 were filed and are pending in the application. All of these claims were rejected. Claim 3 is amended but not in a manner which impacts the scope of the claim for purposes of determining the limitations of prosecution history estoppel and/or infringement under the Doctrine of Equivalents.

#### Rejections Under 35 USC §103

The Examiner rejected:

- Independent claims 1, 2 and 4, and dependent claims 5-10, 13, and 18 under 35 USC §103(a) as unpatentable over US Patent 5,388,583 (Ragauskas *et al.*) in view of US Patent 3,948,248 (Zukerman *et al.*);
- Dependent claim 3 under 35 USC §103(a) as obvious over Ragauskas and Zukerman as applied to claim 2, in view of US Patent 6,019,724 (Gronningsaeter *et al.*)
- Dependent claims 11 and 14 under 35 USC §103(a) as obvious over Ragauskas and Zukerman as applied to claim 4, in view of US Patent 5,690,117 (Gilbert);

- Dependent claim 12 under 35 USC §103(a) as obvious over Ragauskas and Zukerman as applied to claim 1, in view of US Patent 5,247,938 (Silverstein *et al.*); and
- Dependent claims 15-17 under 35 USC §103(a) as obvious over Ragauskas and Zukerman as applied to claim 1, in view of US Patent 5,247,938 (Silverstein *et al.*)

Thus, in each case, the Examiner's position is that Ragauskas teaches "an ultrasound device dynamically coupled to the cerebral [tissue] or skull or brain" as stated in the rejection of claims 1, 2, 4-10, 13, and 18 (paragraph 4 on page 2 of the Detailed Action).

However, Ragauskas does not actually teach or suggest a process or method including dynamic coupling of at least one ultrasonic transmitter/receiver to a skull, or to at least one opening in a skull, as each of the independent claims explicitly requires. In fact, Ragauskas teaches the exact opposite of one of the types of dynamic coupling taught at specification page 10, line 9 to page 12, line 3: "System 20 employs at least one pair of ultrasonic transducers 32, 34, which are mounted on a frame assembly 36 that can be mounted on a person's head. The frame assembly 36 can be formed in a variety of ways, however *it is essential that the transducers 32, 34 are held in a stable position once they have been aligned along a desired path* .... (Column 5, lines 1-7).

Thus, a *prima facie* case for obviousness has not been made, as an element of every independent claim has not been shown to be in the prior art. Furthermore, there is no suggestion in the prior art (cited or otherwise) that the modification to the Ragauskas teaching that would be required to teach the claimed invention would lead to success, as required to support an obviousness rejection under 35 USC §103(a). In fact, any such modification would be directly opposite to the explicit teaching of the reference, a strong indicator of non-obviousness. Therefore, all claims should be allowed.

If you have any questions, please contact me at your convenience.

Very truly yours,



Peter Forrest  
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**Claim Amendment Markup**

3. (Amended) The method of claim 2 in which the non-ultrasonic detection comprises at least one of the group consisting of computed tomography scanning, magnetic resonance scanning, differential spectrophotometric methods, near-infrared detection of tissue characteristics, detection of a biological material, measurement of a biological material, detection of a chemical, measurement of a chemical, detection of S100 $\beta$ , measurement of S100 $\beta$ , use of biological assay techniques, detection of change in blood pressure, detection of change in pressure within the eye, detection of change in blood flow in arteries serving organs other than the brain, [and] or detection of change in blood flow in the arteries serving the eye.